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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	
Nathalie GARNIER *et al.*	Group Art Unit: 1616
Application No.: 09/714,663	Examiner: S. Qazi
Filed: November 17, 2000	
For: COMPOSITIONS AND METHODS FOR THE PERMANENT DEFORMATION OF KERATIN FIBERS CONTAINING AT LEAST ONE DERIVATIVE OF FORMAMIDINE SULFINIC ACID	Confirmation No.: 4399

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Commissioner for Patents
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Sir:

APPEAL BRIEF UNDER BOARD RULE § 41.37

In support of the Notice of Appeal filed July 26, 2005, and further to Board Rule 41.37, Appellants present this Appeal Brief. A check for the fee of $500.00 required under 37 C.F.R. § 1.17(c) is enclosed. In view of the one month petition for an extension of time filed concurrently, this Brief is due October 26, 2005, and is timely filed.

This Appeal responds to the January 27, 2005, final rejection of claims 11, 12, 14-19 and 21-42, which are set forth in the attached Appendix. If any additional fees are required or if the enclosed payment is insufficient, Appellants request that the required fees be charged to Deposit Account No. 06-0916.

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I. REAL PARTY IN INTEREST

L'ORÉAL S.A. is the assignee of record, as evidenced by the assignment document filed in the U.S. Patent and Trademark Office on April 20, 2001, and recorded at Reel 011723 and Frame 0506.

II. RELATED APPEALS AND INTERFERENCES

There are currently no other appeals or interferences, of which Appellants, Appellants' legal representative, or Assignee are aware, that will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

III. STATUS OF CLAIMS

Claims 11, 12, 14-19 and 21-42 stand rejected and are being appealed. A complete listing of the pending claims is included in the attached appendix. Claims 1-10 and 20 have been canceled. Claims 13 and 43-100 stand withdrawn as drawn to a nonelected invention.

IV. STATUS OF AMENDMENTS

In response to the Final Office Action mailed January 27, 2005, Applicants on May 26, 2005, filed an Amendment and Request for Reconsideration Under 37 C.F.R. § 1.116. On July 12, 2005, the Office issued and Advisory Action indicating that the proposed amendments were not entered because they did not place the application in better form for appeal by materially reducing or simplifying the issues for appeal. July 12, 2005, Advisory Action.

V. SUMMARY OF CLAIMED SUBJECT MATTER

A. Overview of the Claimed Subject Matter

The shape of hair can be altered by opening the disulphide bonds of the keratin fibers, shaping the hair, then reforming the disulphide bonds so as to give the hair another desired shape. Specification, page 1, lines 11-22.[1] Using this technique, straight hair can be waved and curly hair can be straightened. *Id.*, page 1, lines 20-22. A reducing agent is used for the initial opening of the disulphide bonds, *id.*, page 1, lines 11-15, and those agents are generally provided in a lotion, cream or gel composition. *Id.*, page 1, lines 23-25.

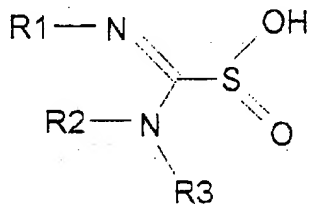
Most reducing agents known in the art are thiols. *Id.*, page 1, line 23 to page 2, line 25. Thiols are disadvantageous for use in permanent deformation of hair, however, because they have an unpleasant smell. *E.g.*, *id.*, page 2, lines 6-18. In addition, reducing compositions known prior to the development of the instant invention also excessively damage the hair fiber. *Id.*, page 2, line 26 to page 3, line 2.

B. Claims 11, 16-19 and 21-42

The subject matter of claims 11, 12, 16-19 and 21-42 relates to reducing compositions for the permanent deformation of hair. *Id.*, page 3, lines 9-11. These compositions are more effective than earlier reducing compositions, but at the same time they reduce damage to the hair. *Id.*, page 3, lines 3-8. As recited in claim 11, the

[1] The references to the specification in this Brief are merely intended to facilitate explaining how the application provides exemplary disclosure relating to the claimed subject matter. Those references are not necessarily exhaustive. Furthermore, those references should not be construed as limiting the claims.

reducing compositions of the invention comprise at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I):



(I)

in which:

R1, R2, and R3, which are identical or different, are each chosen from hydrogen; amino groups; C_1 to C_8 aminoiminoalkyl groups; imino groups; C_1 to C_8 aminoalkyl groups; guanidino groups; C_1 to C_8 linear alkyl groups; C_1 to C_8 branched alkyl groups; C_2 to C_8 linear alkenyl groups; C_2 to C_8 branched alkenyl groups; C_7 to C_{20} aralkyl groups; and C3 to C20 rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur; and wherein said R1, R2, and R3 are optionally substituted. *Id.*, page 3, line 9 to page 4, line 15.

Claim 11 also recites that when R1 is hydrogen or C_1 to C_4 alkyl, then R2 and R3 are not simultaneously hydrogen, or hydrogen and C_1 to C_4 alkyl. The specification describes the genus of N-substituted formamidinesulphinic acid derivatives of formula (I), and lists many examples of N-substituted formamidinesulphinic acid derivatives falling within that genus. *Id.*, page 5, line 25 to page 7, line 28. Among the examples are:

- imino(methylamino)methanesulphinic acid (R1 is hydrogen; R2 and R3 is simultaneously hydrogen and C_1 alkyl);

- imino(propylamino)methanesulphinic acid (R1 is hydrogen; R2 and R3 is simultaneously hydrogen and C_3 alkyl);

- (ethylamino)(ethylimino)methanesulphinic acid (R1 is a C_2 alkyl; R2 and R3 is simultaneously C_2 alkyl);

- (methylamino)(methylimino)methanesulphinic acid (R1 is a C_1 alkyl; R2 and R3 is simultaneously hydrogen and C_1 alkyl);

- (butylamino)(butylimino)methanesulphinic acid (R1 is a C_4 alkyl; R2 and R3 are simultaneously hydrogen and C_4 alkyl); and

- formamidinesulphinic acid (R1 is hydrogen; R2 and R3 are simultaneously hydrogen).

Id. at page 5, lines 25 and 26, page 6, lines 3-8, and page 15, line 27. Thus the specification describes formamidinesulphinic acid derivatives of formula (I) ("the whole"), and it describes "the part remaining," i.e., formamidinesulphinic acid derivatives of formula (I) minus the derivative where when R1 is hydrogen or C_1 to C_4 alkyl, then R2 and R3 are not simultaneously hydrogen, or hydrogen and C_1 to C_4 alkyl.

The reducing compositions of the invention of claim 11 also include various classes of additives. *Id.*, page 11, line 6 to page 14, line 9. The additives recited in claim 11 were also recited in original claim 7. Those additives are recited in more detail in claims 21-36, and include additional reducing agents, *id.*, page 11, lines 6-24; surface -active agents, *id.*, page 11, line 25 to page 12, line 6; and treating agents and active ingredients, *id.*, page 12, line 13 to page 14, line 9.

Claims 16 and 17 recite the amount by weight of the reducing agent with respect to the total weight of the composition. *Id.*, page 10, lines 18-23. In addition, claims 18 and 19 recite the pH of the composition. *Id.*, page 9, lines 6-9.

The compositions of the invention can be in the form of a lotion that is optionally thickened, a cream or a gel, as recited in claim 37. *Id.*, page 14, lines 10-13. In addition, as recited in claim 38, the compositions can be exothermic. *Id.*, page 14, lines 14-19.

As recited in claim 39, the compositions can further comprise water. *Id.*, page 14, lines 25-26. Solvents may also be included in the compositions, including in an amount ranging up to 20% by weight with respect to the total weight of the composition, as recited in claims 40-42. *Id.*, page 14, lines 20-24.

C. Claim 12

The subject matter of claim 12 further defines the R1, R2 and R3 groups that are the substituents of formula (I). *Id.*, page 4, line 26 to page 5, line 10.

D. Claims 14 and 15

The specification also discloses examples of the at least one N-substituted formamidinesulphinic acid derivatives of formula (I) that can be included in a composition for permanent deformation of hair. These examples are recited in claims 14 and 15 and include:

- (dimethylamino)iminomethanesulphinic acid;
- (diethylamino)iminomethanesulphinic acid;
- (phenylamino)(phenylimino)methanesulphinic acid;
- (phenylmethylamino)(phenylmethylimino)methanesulphinic acid;
- (carboxymethylamino)iminomethanesulphinic acid;
- (2-carboxyethylamino)iminomethanesulphinic acid;
- (3-carboxypropylamino)iminomethanesulphinic acid;

- (5-carboxypentylamino)iminomethanesulphinic acid;
- (hydroxymethylamino)iminomethanesulphinic acid;
- (2-aminoethylamino)iminomethanesulphinic acid;
- imino(sulphonylmethylamino)methanesulphinic acid;
- imino(2-sulphonylpropylamino)methanesulphinic acid;
- imino(2-phosphonylmethylamino)methanesulphinic acid;
- imino(phenylamino)methanesulphinic acid;
- imino(4-methylphenylamino)methanesulphinic acid;
- imino(4-hydroxyphenylamino)methanesulphinic acid;
- imino(4-methoxyphenylamino)methanesulphinic acid;
- imino(2-chlorophenylamino)methanesulphinic acid;
- imino(4-methyl-2-pyridylamino)methanesulphinic acid;
- imino(6-methyl-2-pyridylamino)methanesulphinic acid;
- imino(5-methyl-2-pyridylamino)methanesulphinic acid;
- imino(2-quinolylamino)methanesulphinic acid;
- imino(3-quinolylamino)methanesulphinic acid;
- (methylimino)-2-pyridylaminomethanesulphinic acid;
- (methylimino)[(3,4,5,6-tetrahydro-2-pyridyl)amino]methanesulphinic acid; and
- [(aminoiminomethyl)amino]iminomethanesulphinic acid.

Id., page 5, line 25 to page 7, line 25.

VI. Grounds of Rejection

A. Claims 11, 12, 14-19 and 21-42[2] stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the written description requirement.

B. Claims 11, 12, 14-19 and 21-42[3] stand rejected under 35 U.S.C.§ 112, first paragraph, as allegedly failing to comply with the enablement requirement.

[2] The Final Office Action states that "[c]laims 11, 12 and 14-42 rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement." January 27, 2005, Final Office Action, page 3. Claim 20 was canceled by the Amendment filed Nov. 13, 2004. Appellants therefore believe that claims 11, 12, 14-19 and 21-42 stand rejected.

[3] The Final Office Action states that "[c]laims 11-42 are rejected because these are not enabled in specification." January 27, 2005, Final Office Action, page 4. However, claim 13 stands withdrawn by the Examiner. *Id.* at 2. Claim 20 was canceled by the Amendment filed Nov. 13, 2003. Appellants therefore believe that claims 11, 12, 14-19 and 21-42 stand rejected.

VII. ARGUMENT

Each claim of the present application is separately patentable, and upon issuance of a patent will be entitled to a separate presumption of validity under 35 U.S.C. § 282. The arguments set forth below are arranged under subheadings, and in accordance with 37 C.F.R. § 41.37(c)(1)(vii), these subheadings indicate the claims for which patentability is argued separately.

A. Claims 11, 16-19 and 21-42 Are Patentable Under 35 U.S.C. § 112, 1¶ (New Matter).

1. *The Office's assertion that the groups "C1-C8 aminoiminoalkyl groups" and "C3-C20 rings" in the definition of R1, R2 and R3 are New Matter is improper and should be withdrawn.*

It is well settled that the "subject matter of the claim need not be described literally (*i.e.*, using the same terms or *in haec verba*) in order for the disclosure to satisfy the description requirement." M.P.E.P. § 2163.02 (8th Ed., May 2004). According to the Office, "C1-C8 aminoiminoalkyl groups" and "C3-C20 rings" "are not described in the specification and therefore considered as new matter." Jan. 27, 2005, Final Office Action, page 3.

At the time claims 11-99 were filed, Appellants pointed to the original claims and to the specification on page 5, line 25 to page 7, line 28 for support for the newly added claims. *See* Dec. 21, 2001, Amendment and Reply, page 29. The Office does not provide any reasons why the original claims and pages of the specification relied upon fail to provide adequate written support in either the Jan. 27, 2005, Final Office Action, or the Apr. 29, 2004, Non-Final Office Action, in which the rejection was first made.

Instead, the Office in each Office Action states that "Applicant is requested to show if there is any support." *E.g.*, Jan. 29, 2005, Final Office Action, page 3.

Although Appellants should point to support for newly added claims, M.P.E.P. § 2163.06, the Office must "[e]stablish a *prima facie* case by providing reasons why a person skilled in the art at the time the application was filed would not have recognized that the inventor was in possession of the invention as claimed in view of the disclosure of the application as filed," M.P.E.P. § 2163.04. Appellants respectfully submit that they have pointed to support and the Office has still not meet this burden. The rejection is therefore improper and should be withdrawn.

2. Both the genus of C1-C8 aminoiminoalkyl groups and species within that genus are disclosed in the specification

Appellants also respectfully traverse the rejection with respect to "C1-C8 aminoiminoalkyl groups" because both the claimed genus and species within the genus are disclosed in the specification. In particular, the combination of different substituents set forth on pages 3-4 of the specification provides support for "C1-C8 aminoiminoalkyl groups." The specification provides a limited list of possible substituents at page 3, line 18 to page 4, line 1. One of these substituents is imino. *See* page 3, line 20. The specification goes on to state that the substituent may be further modified by carrying "*one or more* hydroxyl, carboxyl, *amino*, amido, halogen, *C1-C8 alkyl* or C1-C8 alkoxy radicals." Specification page 4 at lines 1-4 (emphasis added). Thus the specification clearly contemplates R1, R2, and R3 groups in which an imino (N=C) substituent is modified by carrying both an amino (NH_2) and a C1-C8 alkyl. Original claim 1 in part (a) likewise recites this combination of substituents, stating "R1, R2 and R3, which are

identical or different, represent a hydrogen atom, an amino, C1 to C8 aminoalkyl, *imino* . . . ; it being possible for all these substituents optionally to carry *one or more* hydroxyl, carboxyl, *amino*, amido, halogen, *C1-C8 alkyl* or C1-C8 alkoxy radicals." Claim 1, emphasis added.

Thus both the specification and original claims support the claimed genus of "C1-C8 aminoiminoalkyl groups." Appellants respectfully note that:

> In claims involving chemical materials, generic formulae usually indicate with specificity what the generic claims encompass. One skilled in the art can distinguish such a formula from others and can identify many of the species that the claims encompass. Accordingly, such a formula is normally an adequate description of the claimed genus.

Regents of the University of California v. Eli Lilly, 119 F.3d 1559, 1568, 43 USPQ2d 1398, 1406 (Fed. Cir. 1997).

Further, species within the claimed genus are also disclosed in the specification. For example, the specification at page 7, lines 24-25, provides a particular embodiment in which the C1-C8 alkyl is methyl. In addition, original claim 3 recites a species within the claimed C1-C8 aminoiminoalkyl groups, because original claim 3 included the recitation "[(aminoiminomethyl)amino]imino-methanesulphinic acid." Particularly given the limited variation encompassed by the recited genus, Appellants respectfully submit that one of skill in the art would recognize that the Appellant "was in possession of the necessary common attributes or features of the elements possessed by the members of the genus in view of the species disclosed." M.P.E.P. § 2163. Accordingly, Appellants respectfully request the rejection of record be reversed.

3. Both the genus of C3 to C20 ring groups and species within that genus are disclosed in the specification

Similarly, reducing compositions in which R1, R2, and R3 represent an aromatic or nonaromatic C3 to C20 ring are disclosed in the specification at page 3, lines 9-24, especially lines 23-24, which explicitly state that R1, R2 and R3 can represent "an aromatic or nonaromtic C3 to C20 ring." Original claim 1 likewise provides that in the reducing compositions of forumula (I), R1, R2, and R3 can represent "an aromatic or nonaromatic C3 to C20 ring." In addition, there are several compounds comprising C3-C20 rings disclosed in the embodiments set forth on pages 5-7 (e.g., those compounds containing a phenyl, a pyridyl or a quinolyl group.) Finally, the working example of lotion 2 on page 16 includes a C3-C20 ring (phenyl.) The specification therefore discloses not only the genus of C3-C20 rings, but also provides several embodiments and a working example comprising a ring that are within the recited genus.

Applicants respectfully note that "[t]here is a strong presumption that an adequate written description of the claimed invention is present when the application is filed." M.P.E.P § 2163.I.A (citing *In re Wertheim*, 541 F.2d 257, 263, 191 USPQ 90, 97 (CCPA 1976)). As noted *supra*, in the case of chemical materials "generic formulae usually indicate with specificity what the generic claims encompass." *Eli Lilly*, 119 F.3d at 1568, 43 USPQ2d at 1406. Here, the disclosure of the core structure set forth in formula (I), a generic formula for the R group constituents, and specific reducing compositions in which the R groups in the compounds of formula (I) are various species of C3 to C20 rings is certainly such that "one of skill in the art would recognize that the applicant was in possession of the necessary common attributes or features of the

elements possessed by the members of the genus in view of the species disclosed." M.P.E.P. § 2163.II.A.3.a.ii.

As previously noted, "[t]he examiner has the initial burden of presenting evidence or reasoning to explain why persons skilled in the art would not recognize in the original disclosure a description of the invention defined by the claims." M.P.E.P. § 2163.II.A.3.b (citing *In re Wertheim*, 541 F.2d at 263, 191 USPQ at 97). In this case, however, the Office has not provided a reasonable basis for questioning the adequacy of the written description. In view of the generic "C3-C20 ring" and the disclosure of several species within the claimed genus, Appellants respectfully submit that the specification provides an adequate written description of the claimed subject matter. The New Matter rejection with respect to the recitation "C3 to C20 ring" should therefore also be reversed.

B. Claim 12 Is Separately Patentable Under 35 U.S.C. § 112, 1¶ (New Matter).

Appellants respectfully submit that claim 12 is independently patentably under 35 U.S.C. § 112, 1¶ , New Matter. As an initial matter, Appellants note that the rejection of record failed to address the subject matter of claim 12 and so the Office did not establish a reasonable basis for questioning the adequacy of the written description of claim 12. M.P.E.P. § 2163.III.A. Although Appellants respectfully submit for the reasons discussed *supra* that there is adequate written support for both C1-C8 aminoiminoalkyl groups and C3-C20 rings, claim 12 further defines the compounds of formula I in a way that is expressly supported in the specification. According to the disclosure, R1, R2 and R3 groups of formula (I) can be chosen from:

- the hydrogen atom,
- linear or branched chain C1-C6 alkyls optionally substituted by at least one hydroxyl, carboxyl, amino, sulphonyl or phosphonyl radical
- phenyls optionally substituted by at least one halogen atom or by a C1-C4 alkyl or C1-C4 alkoxy radical or alternatively hydroxyl,
- heterocycles, such as pyridine, dihydropyridine, tetrahydropyridine or quinolone, and
- the guanidine radical.

Specification page 5, lines 1-10. The subject matter of claim 12 was also recited in original claim 2.

Thus even were claims 11, 16-19 and 21-42 found to include New Matter, the specification provides independent and unequivocal written support for the subject matter recited in claim 12. Appellants respectfully submit that claim 12 is therefore independently patentable. Accordingly, the Office's rejection of claim 12 under 35 U.S.C. § 112, 1¶ should be reversed.

C. Claims 14-15 Are Separately Patentable Under 35 U.S.C. § 112, 1¶ (New Matter).

Appellants respectfully submit that each of claims 14 and 15 are also independently patentably under 35 U.S.C. § 112, 1¶ because they recite compositions in which the reducing agent is chosen from specific compounds that were disclosed in the application as-filed. In particular, the individual compounds of formula I recited in claims 14 and 15 were disclosed on pages 5-6 of the specification and in original claims 3 and 4. The Federal Circuit has previously noted that a chemical name provides an adequate written description of a compound. *See, e.g., Univ. of Rochester v. G.D. Searle & Co.*, 358 F.3d 916, 927, 69 USPQ2d 1886, 1894-95 (Fed. Cir. 2004) (finding that a claim reciting a non-steroidal compound that selectively inhibits the activity of the

PGHS-2 gene product to lack adequate written description because the patent did not disclose any compounds). While the court in *Rochester* admonished the patentee that more was required than "merely a wish or plan for obtaining the chemical invention claimed," the court specifically acknowledged that "structure, formula, chemical name, or physical properties" could be used to provide an adequate written description of a chemical invention. *See id.* at 927, 69 USPQ2d at 1894-95.

In the case of the chemical names recited in claims 14 and 15, Appellants respectfully submit that no more than the chemical name is needed to show that Appellants were in possession of the claimed invention. Here, the names convey to the skilled artisan the complete chemical structure of each compound recited. The M.P.E.P. states that "[i]f a complete structure is disclosed, the written description requirement is satisfied for that species or embodiment, and a rejection under 35 U.S.C. 112, para. 1, for lack of written description must not be made." M.P.E.P. § 2163.II.3.A.i.C.1. Further, Appellants note that the rejection of record does not address the subject matter of claims 14 and 15, so that the Office has failed the requirement that it provide a reasonable basis to challenged the adequacy of the written description of claims 14 and 15. M.P.E.P. § 2163.III.A. Therefore, Appellants respectfully submit that claims 14 and 15 are independently patentable and the Office's rejection of those claims under 35 U.S.C. § 112, 1¶ should be reversed.

D. Claims 11, 12, and 16-19 and 21-42 Are Patentable Under 35 U.S.C. § 112, 1¶ (Enablement).

1. The Office has failed to establish a reason to question the enablement of the claimed invention.

The M.P.E.P. makes clear that "[i]n order to make [an enablement] rejection, . . . [there is an] initial burden to establish a reasonable basis to question the enablement provided for the claimed invention." M.P.E.P. § 2164.04 (8th Ed., May 2004) (internal citations omitted). Any conclusion regarding non-enablement should be based on specific findings of fact that are supported by evidence. *See id.* "The minimal requirement is . . . to give reasons for the uncertainty of the enablement." *Id.* In particular, references should be supplied if possible and specific technical reasons are required. *Id.*

In this case, the Office has failed to meet this initial burden. In the Final Office Action, the Office asserts that "there is no related description in the disclosure where one skilled in the art would be able to make and use of the wide range of the compositions of the compounds of formula (I) as claimed in claim 11 without undue experimentation." Jan. 27, 2005, Final Office Action, page 4. Neither the Apr. 29, 2004, Office Action nor the Jan. 27, 2005, Final Office Action, however, provide any specific findings or cite any evidence to support this allegation. Instead, in each Office Action the Office does little more than lists the factors that must be considered in determining whether undue experimentation is required to practice the claimed invention, then asserts that "[o]ne skilled in the art would have no idea how to practice the invention." *Id.* at 5-6. In the Final Office Action, the Office adds the comment that "[t]here is only one example in the entire Specification." Jan. 27, 2005, Final Office Action, page 5. Although the Office points to case law to support the proposition that a single species may not support a claim to a genus, Appellants respectfully note that there must be unpredictability associated with the claimed invention for this case law to be applicable.

See, e.g., In re Fisher, 427 F.2d 833, 839, 166 USPQ 18, 24 (CCPA 1970) (contrasting mechanical and electrical elements with chemical reactions and physiological activity). Not all chemical inventions are unpredictable, however. Here, the Office has failed to point to any specific findings or cite any evidence to support that it is unpredictable whether the compounds within the scope of the claims would function as reducing agents in a composition for permanent deformation of hair.

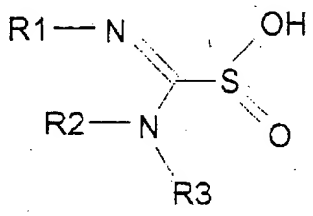
For at least the above reasons, the initial burden of establishing a reasonable basis to question the enablement of the claimed invention has not been met. Appellants respectfully submit that the rejection is therefore improper and should be reversed.

2. *The specification enables one of skill in the art to make and use the claimed invention.*

Notwithstanding the Office's failure to meet the initial burden for establishing a prima facie case of non-enablement, Appellants respectfully submit that the specification contains sufficient information to enable one skilled in the art to make and use the claimed invention based upon the factors summarized in *In re Wands,* 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988). The nature of the invention is that of reducing compositions for permanent deformation of hair comprising at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula I. As the specification acknowledges on pages 1-3, reducing compositions for deformation of hair were known in the art, as were methods of using those compositions for permanent deformation of hair. The level of one of ordinary skill in the art was therefore high, and the art itself was highly developed. The prior art compositions,

however, had the undesirable effect of damaging the hair fiber, and, in addition, had an unpleasant smell.

Although the claims encompass a number of reducing compositions within their breadth, all of these compositions comprise reducing agents that share the common core structure:



(I).

There are only three R groups that can be substituted in this formula, and the possible substituents at each position are defined in the claims. Thus although the claims encompass a genus of reducing agents, the breadth of the claims extends only to those reducing agents sharing the core structure of formula I.

Also, the specification provides a great deal of guidance as to how to make and use the various reducing agents within the breadth of the claims. For example, the specification on page 5, lines 11-23, discloses references that describe generally how to make N-substituted formamidinesulphinic acid derivatives of formula I. In addition, the specification on pages 5-7 lists many different individual species of reducing agents chosen from N-substituted formamidinesulphinic acid derivatives of formula I. Further, Appellants provide a working example with an N-substituted formamidinesulphinic acid derivative of formula I and show that it can be used as a reducing agent in a composition for the permanent deformation of hair. One of skill in the art is therefore

armed with how to make the compounds within the scope of the claims and a simple test for determining the activity of those compounds in their intended environment.

Finally, the art of making the N-substituted formamidinesulphinic acid derivatives of formula I and of using compositions comprising those compounds to permanently deform hair was not unpredictable. Although the Office has asserted there was a lack of predictability in the art, Jan. 27, 2005, Final Office Action, page 5, no evidence in support of this assertion has been provided. In addition, it is predictable that most, if not all, of the claimed N-substituted formamidinesulphinic acid derivatives of formula I would function as reducing agents because the core structure of formula I (i.e., when R1, R2, and R3 are all hydrogen) itself functions as a reducing agent.

Appellants therefore respectfully submit that, contrary to the Office's unsupported assertion, one of ordinary skill in the art would be able to practice the full breadth of the invention as claimed without undue experimentation. The specification provides guidance to make compounds within the scope of the claims and the compounds within the genus of reducing agents claimed all share a core structure that itself has the recited function. Consequently, it is predictable that the members of the recited genus also are reducing agents. The Office provides no evidence to the contrary. Moreover, Appellants provide a simple test for the skilled artisan to determine the activity of each of these compounds. *E.g.*, Specification, pages 15-16. Appellants note that "'a considerable amount of experimentation is permissible, if it is merely routine, or if the specification in question provides a reasonable amount of guidance with respect to the direction in which the experimentation should proceed.'" *In re Wands*, 858 F.2d 731,

737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988) (citing *In re Angstadt*, 537 F.2d 489, 502-04, 190 USPQ 214, 217-19 (CCPA 1976)).

In view of the highly developed state of the art for the preparation and use of reducing agents for the permanent deformation of hair and the lack of unpredictability that members of the claimed genus would function as reducing agents, Appellants respectfully submit that no further working examples were needed to enable the claimed invention. Therefore, unlike the situation when there is unpredictability associated with making and/or using the claimed invention, for this particular claimed subject matter the presence of a single working example is more than adequate to enable the full breadth of the claims. Appellants therefore respectfully submit that the rejection of record is in error and ask that the rejection be reversed and withdrawn.

E. Claims 14 and 15 Are Separately Patentable Under 35 U.S.C. § 112, 1¶ (Enablement).

1. Claims 14 and 15 recite compositions in which the structure of the reducing agent is defined.

Appellants respectfully submit that each of claims 14 and 15 are independently patentably under 35 U.S.C. § 112, 1¶ because they recite compositions in which the reducing agent is chosen from structurally defined compounds. Appellants incorporate their arguments set forth *supra* regarding the enablement of claims 11, 12, 16-19 and 21-42. In addition, they note that methods of making the compounds recited in claims 14 and 15 are taught in the specification on page 5, lines 11-22. The Office provides no specific technical reasons or supporting evidence to in any way suggest that any of those defined compounds could not be made and used as reducing agents in a

composition for the permanent deformation of hair. Neither does the rejection of record address the subject matter of claims 14 and 15. Therefore, Appellants respectfully submit that claims 14 and 15 are independently patentable and the Office's rejection of those claims under 35 U.S.C. § 112, 1¶ should be reversed.

VIII. CONCLUSION

For the reasons given above, pending claims 11, 12, 14-19 and 21-42 are allowable and reversal of the Office's rejection is respectfully requested. Appellants respectfully submit that the claimed subject matter is fully supported in the specification. In addition, Appellants respectfully submit the Office has failed to establish a *prima facie* case for questioning the enablement of the claimed invention.

To the extent any extension of time under 37 C.F.R. § 1.136 is required to obtain entry of this Appeal Brief, such extension is respectfully requested. If there are any fees due under 37 C.F.R. §§ 1.16 or 1.17 which are not enclosed herewith, including any fees required for an extension of time under 37 C.F.R. § 1.136, please charge such fees to our Deposit Account No. 06-0916.

Respectfully submitted,

FINNEGAN, HENDERSON, FARABOW,
GARRETT & DUNNER, L.L.P.

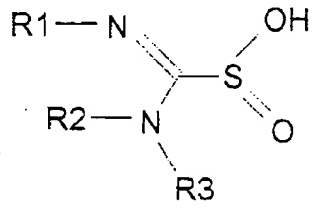
Dated: October 5, 2005

By: _____
Anthony C. Tridico
Reg. No. 45,958

A. Claims Appendix to Appeal Brief Under Rule 41.37(c)(1)(viii)

1-10 (canceled).

11. (previously presented) A reducing composition for permanent deformation of hair comprising at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I), the inorganic salts thereof, and the organic salts thereof:



(I)

in which:

R1, R2, and R3, which are identical or different, are each chosen from hydrogen; amino groups; C_1 to C_8 aminoiminoalkyl groups; imino groups; C_1 to C_8 aminoalkyl groups; guanidino groups; C_1 to C_8 linear alkyl groups; C_1 to C_8 branched alkyl groups; C_2 to C_8 linear alkenyl groups; C_2 to C_8 branched alkenyl groups; C_7 to C_{20} aralkyl groups; and C3 to C20 rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur; and

wherein said R1, R2, and R3 are optionally substituted;

with the proviso that when R1 is hydrogen or C_1 to C_4 alkyl, then R2 and R3 are not simultaneously hydrogen, or hydrogen and C_1 to C_4 alkyl,

the composition further comprising at least one additive chosen from reducing agents other than said at least one reducing agent; surface-active agents chosen from nonionic surface-active agents, anionic surface-active agents, cationic surface-active agents, and amphoteric surface-active agents; treating agents chosen from cationic treating agents, anionic treating agents, nonionic treating agents, and amphoteric treating agents; fatty alcohols; lanolin derivatives; active ingredients; agents for combating hair loss; antidandruff agents; thickeners; suspending agents; sequestering agents; opacifying agents; colorants; sunscreen agents; fragrances; and preservatives.

12. (previously presented) A composition according to Claim 11, wherein said R1, R2, and R3, which are identical or different, are each chosen from hydrogen; linear C_1 to C_6 alkyl groups optionally substituted by at least one group chosen from hydroxyl groups, carboxyl groups, amino groups, sulphonyl groups, and phosphonyl groups; branched C_1 to C_6 alkyl groups optionally substituted by at least one group chosen from hydroxyl groups, carboxyl groups, amino groups, sulphonyl groups, and phosphonyl groups; phenyl groups optionally substituted by at least one group chosen from halogens, C_1 to C_4 alkyl groups, C_1 to C_4 alkoxy groups, and hydroxyl groups; heterocycles; and guanidino groups.

13. (previously presented) A composition according to Claim 12, wherein said heterocycles are chosen from pyridine groups, dihydropyridine groups, tetrahydropyridine groups, and quinoline groups.

14. (previously presented) A composition according to Claim 11, wherein said at least one reducing agent is chosen from:

- (dimethylamino)iminomethanesulphinic acid;
- (diethylamino)iminomethanesulphinic acid;
- (phenylamino)(phenylimino)methanesulphinic acid;
- (phenylmethylamino)(phenylmethylimino)methanesulphinic acid;
- (carboxymethylamino)iminomethanesulphinic acid;
- (2-carboxyethylamino)iminomethanesulphinic acid;
- (3-carboxypropylamino)iminomethanesulphinic acid;
- (5-carboxypentylamino)iminomethanesulphinic acid;
- (hydroxymethylamino)iminomethanesulphinic acid;
- (2-aminoethylamino)iminomethanesulphinic acid;
- imino(sulphonylmethylamino)methanesulphinic acid;
- imino(2-sulphonylpropylamino)methanesulphinic acid;
- imino(2-phosphonylmethylamino)methanesulphinic acid;
- imino(phenylamino)methanesulphinic acid;
- imino(4-methylphenylamino)methanesulphinic acid;
- imino(4-hydroxyphenylamino)methanesulphinic acid;
- imino(4-methoxyphenylamino)methanesulphinic acid;

- imino(2-chlorophenylamino)methanesulphinic acid;
- imino(4-methyl-2-pyridylamino)methanesulphinic acid;
- imino(6-methyl-2-pyridylamino)methanesulphinic acid;
- imino(5-methyl-2-pyridylamino)methanesulphinic acid;
- imino(2-quinolylamino)methanesulphinic acid;
- imino(3-quinolylamino)methanesulphinic acid;
- (methylimino)-2-pyridylaminomethanesulphinic acid;
- (methylimino)[(3,4,5,6-tetrahydro-2-pyridyl)amino]methanesulphinic acid; and
- [(aminoiminomethyl)amino]iminomethanesulphinic acid.

15. (previously presented) A composition according to Claim 11, wherein said at least one reducing agent is chosen from:

- (carboxymethylamino)iminomethanesulphinic acid; and
- imino(phenylamino)methanesulphinic acid.

16. (previously presented) A composition according to Claim 11, wherein said at least one reducing agent is present in an amount ranging from 0.05% to 20% by weight with respect to the total weight of said composition.

17. (previously presented) A composition according to Claim 11, wherein said at least one reducing agent is present in an amount ranging from 0.1% to 8% by weight with respect to the total weight of said composition.

18. (previously presented) A composition according to Claim 11, wherein said composition has a pH ranging from 2 to 11.

19. (previously presented) A composition according to Claim 11, wherein said composition has a pH ranging from 7 to 10.

Claim 20 (canceled).

21. (previously presented) A composition according to Claim 11, wherein said reducing agents other than said at least one reducing agent are chosen from thioglycolic acid; glyceryl monothioglycolate; glycol monothioglycolate; cysteamine; C_1 to C_4 acylated derivatives of cysteamine; cysteine; N-acetylcysteine; N-mercaptoalkylamides of sugars; β-mercaptopropionic acid; derivatives of β-mercaptopropionic acid; thiolactic acid; thioloactic esters; thiomalic acid; pantheteine; thioglycerol; sulphites of at least one alkali metal; sulphites of at least one alkaline earth metal; bisulphites of at least one alkali metal; bisulphites of at least one alkaline earth metal; N-(mercaptoalkyl)-o-hydroxyalkylamides; N-monoalkylmercapto-4-butyramides; N,N-dialkylmercapto-4-butyramides; aminomercaptoalkylamides; and alkylaminomercaptoalkylamides.

22. (previously presented) A composition according to Claim 21, wherein said derivatives of cysteamine are chosen from N-acetylcysteamine and N-propionylcysteamine.

23. (previously presented) A composition according to Claim 21, wherein said N-mercaptoalkylamides of sugars are chosen from N-(2-mercaptoethyl)-gluconamide.

24. (previously presented) A composition according to Claim 21, wherein said thioloactic esters are chosen from glyceryl monothiolactate.

25 (previously presented) A composition according to Claim 11, wherein said surface-active agents are chosen from alkyl sulphates; alkylbenzenesulphates; alkyl ether sulphates; alkylsulphonates; quaternary ammonium salts; alkyl betaines; oxyethylenated alkylphenols; fatty acid alkanolamides; oxyethylenated fatty acid esters; and nonionic surfactants comprising at least one hydroxypropyl ether group.

26 (previously presented) A composition according to Claim 11, wherein said treating agents are chosen from volatile linear silicones; volatile cyclic silicones; nonvolatile linear silicones; nonvolatile cyclic silicones; polydimethylsiloxanes; quaternized polyorganosiloxanes; polyorganosiloxanes with at least one aminoalkyl group modified by at least one alkoxy-carbonylalkyl group; polyorganosiloxanes; polydimethylsiloxanes with stearoxy end groups (stearoxy dimethicone); polydimethylsiloxane-dialkylammonium acetate copolymers; polydimethylsiloxane-poly(alkyl betaine) copolymers; polysiloxanes organomodified by at least one group chosen from mercapto groups and mercaptoalkyl groups; silanes; cationic polymers; basic amino acids; acidic amino acids; peptides; derivatives of peptides; protein

hydrolysates; waxes; swelling agents; penetrating agents; agents which make it possible to reinforce the effectiveness of said at least one reducing agent; dimethylisosorbitol; urea; derivatives of urea; pyrrolidone; N-alkylpyrrolidones; thiamorpholinone; alkyl ethers of alkylene glycol; alkyl ethers of dialkylene glycol; C_3 to C_6 alkanediols; and 2-imidazolidinone.

27. (previously presented) A composition according to Claim 26, wherein said polyorganosiloxanes are chosen from polydimethylsiloxane-polyoxyalkyl copolymers.

28. (previously presented) A composition according to Claim 26, wherein said silanes are chosen from stearoxytrimethylsilane.

29. (previously presented) A composition according to Claim 26, wherein said cationic polymers are chosen from cationic polymers derived from ionene.

30. (previously presented) A composition according to Claim 26, wherein said basic amino acids are chosen from lysine and arginine.

31. (previously presented) A composition according to Claim 26, wherein said acidic amino acids are chosen from glutamic acid and aspartic acid.

32. (previously presented) A composition according to Claim 26, wherein said agents which make it possible to reinforce the effectiveness of said at least one reducing agent are chose from SiO_2/polydimethylsiloxane mixtures.

33. (previously presented) A composition according to Claim 26, wherein said alkyl ethers of alkylene glycol are chosen from propylene glycol monomethyl ether, and ethylene glycol monoethyl ether.

34. (previously presented) A composition according to Claim 26, wherein said alkyl ethers of dialkylene glycol are chosen from dipropylene glycol monomethyl ether and diethylene glycol monoethyl ether.

35. (previously presented) A composition according to Claim 26, wherein said C_3 to C_6 alkanediols are chosen from 1,2-propanediol and 1,2-butanediol.

36. (previously presented) A composition according to Claim 11, wherein said active ingredients are chosen from panthothenic acid.

37. (previously presented) A composition according to Claim 11, wherein said composition is a lotion, optionally thickened, a cream, or a gel.

38. (previously presented) A composition according to Claim 11, wherein said composition is an exothermic composition.

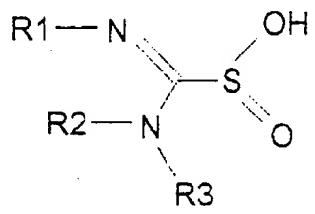
39. (previously presented) A composition according to Claim 11, further comprising water.

40. (previously presented) A composition according to Claim 11, further comprising at least one solvent.

41. (previously presented) A composition according to Claim 40, wherein said at least one solvent is chosen from ethanol, propanol, butanol, isopropanol, and glycerol.

42. (previously presented) A composition according to Claim 40, wherein said at least one solvent is present in an amount ranging up to 20% by weight with respect to the total weight of said composition.

43. (withdrawn) A reducing composition for permanent deformation of hair comprising at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I), the inorganic salts thereof, and the organic salts thereof:



(I)

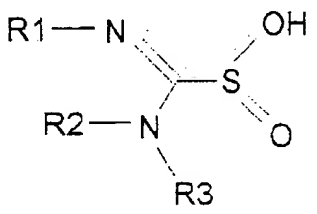
wherein:

R1, R2 and R3, which are identical or different, are each chosen from hydrogen; amino groups; C_1 to C_8 aminoiminoalkyl groups; imino groups; C_1 to C_8 aminoalkyl groups; guanidino groups; C_1 to C_8 linear alkyl groups; C_1 to C_8 branched alkyl groups; C_2 to C_8 linear alkenyl groups; C_2 to C_8 branched alkenyl groups; C_7 to C_{20} aralkyl groups; and C_3 to C_{20} rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur;

wherein R1, R2 and R3 are each optionally substituted with at least one substituent chosen from hydroxyl groups; carboxyl groups; amino groups; amido groups; halogens; C_1 to C_8 linear alkyl groups; C_1 to C_8 branched alkyl groups; C_1 to C_8 linear alkoxy groups; C_1 to C_8 branched alkoxy groups; sulphonyl groups; sulphonate groups; phosphonyl groups; phosphate groups; C_1 to C_8 linear alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1 to C_8 alkoxy groups; C_1 to C_8 branched alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1 to C_8 alkoxy groups; C_2 to C_8 linear alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1 to C_8 alkoxy groups; C_2 to C_8 branched alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1

to C_8 alkoxy groups; and C_7 to C_{20} aralkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1 to C_8 alkoxy groups.

44. (withdrawn) A reducing composition for permanent deformation of hair comprising at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I), the inorganic salts thereof, and the organic salts thereof:



(I)

wherein:

(a) R1, R2 and R3, which are identical or different, are each chosen from hydrogen; amino groups; C_1 to C_8 aminoiminoalkyl groups; imino groups; C_1 to C_8 aminoalkyl groups; guanidino groups; C_1 to C_8 linear alkyl groups; C_1 to C_8 branched alkyl groups; C_2 to C_8 linear alkenyl groups; C_2 to C_8 branched alkenyl groups; C_7 to C_{20} aralkyl groups; and C_3 to C_{20} rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur;

wherein R1, R2 and R3 are each optionally substituted with at least one substituent chosen from hydroxyl groups, carboxyl groups, amino groups, amido

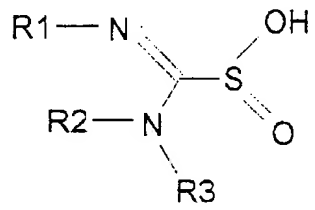
groups, halogen groups, C_1 to C_8 linear alkyl groups, C_1 to C_8 branched alkyl groups, C_1 to C_8 linear alkoxy groups, and C_1 to C_8 branched alkoxy groups; and

(b) at least one of R1, R2, and R3 is chosen from amino groups; C_1 to C_8 aminoalkyl groups; C_1 to C_8 linear alkyl groups; C_1 to C_8 branched alkyl groups; C_2 to C_8 linear alkenyl groups; C_2 to C_8 branched alkenyl groups; C_7 to C_{20} aralkyl groups; and C_3 to C_{20} rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur;

wherein said at least one of R1, R2 and R3 is optionally substituted with at least one group chosen from sulphonyl groups; sulphonate groups; phosphonyl groups; phosphate groups; amino groups; C_1 to C_8 linear alkoxy groups; C_1 to C_8 branched alkoxy groups; C_1 to C_8 linear alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, C_1 to C_8 linear alkoxy groups, and C_1 to C_8 branched alkoxy groups; C_1 to C_8 branched alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, C_1 to C_8 linear alkoxy groups, and C_1 to C_8 branched alkoxy groups; C_2 to C_8 linear alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, C_1 to C_8 linear alkoxy groups, and C_1 to C_8 branched alkoxy groups; C_2 to C_8 branched alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, C_1 to C_8 linear alkoxy groups, and C_1 to C_8 branched alkoxy groups; and C_7 to C_{20} aralkyl groups substituted with at least one group chosen from sulphonic acid groups,

sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, C_1 to C_8 linear alkoxy groups, and C_1 to C_8 branched alkoxy groups.

45. (withdrawn) A process for permanent deformation of hair comprising applying at least one reducing composition comprising at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I), the inorganic salts thereof, and the organic salts thereof:



(I)

wherein:

R1, R2, and R3, which are identical or different, are each chosen from hydrogen; amino groups; C_1 to C_8 aminoiminoalkyl groups; imino groups; C_1 to C_8 aminoalkyl groups; guanidino groups; C_1 to C_8 linear alkyl groups; C_1 to C_8 branched alkyl groups; C_2 to C_8 linear alkenyl groups; C_2 to C_8 branched alkenyl groups; C_7 to C_{20} aralkyl groups; and C_3 to C_{20} rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur; and

wherein said R1, R2, and R3 are optionally substituted.

46. (withdrawn) A process according to Claim 45, further comprising shaping said hair.

47. (withdrawn) A process according to Claim 46, wherein said at least one reducing composition is applied before or after said shaping.

48. (withdrawn) A process according to Claim 46, wherein said at least one reducing composition is applied before and after said shaping.

49. (withdrawn) A process according to Claim 45, further comprising applying at least one setting composition.

50. (withdrawn) A process according to Claim 49, where said at least one setting composition is applied after application of said at least one reducing composition.

51. (withdrawn) A process according to Claim 45, further comprising rinsing said at least one reducing composition from said hair.

52. (withdrawn) A process according to Claim 45, further comprising rinsing said at least one setting composition from said hair.

53. (withdrawn) A process according to Claim 51, further comprising applying at least one composition other than said at least one reducing composition and said at least one setting composition.

54. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition is applied to said hair for a sufficient period of time to reduce at least one disulphide bond of the keratin of said hair.

55. (withdrawn) A process according to Claim 45, wherein said sufficient period of time to reduce at least one disulphide bond of the keratin of said hair ranges from 5 minutes to 60 minutes.

56. (withdrawn) A process according to Claim 55, wherein said sufficient period of time to reduce at least one disulphide bond of the keratin of said hair ranges from 5 minutes to 30 minutes.

57. (withdrawn) A process according to Claim 53, further comprising applying at least one oxidizing composition to said hair.

58. (withdrawn) A process according to Claim 57, wherein said at least one oxidizing composition is applied to said hair after the application of said at least one reducing composition to said hair.

59. (withdrawn) A process according to Claim 58, wherein said at least one oxidizing composition is applied to said hair after said at least one reducing composition is rinsed from said hair.

60. (withdrawn) A process according to Claim 57, wherein said at least one oxidizing composition is applied to said hair for a sufficient period of time to reform at least one disulphide bond of the keratin of said hair.

61. (withdrawn) A process according to Claim 60, wherein said sufficient period of time to reform at least one disulphide bond of the keratin of said hair ranges from 2 minutes to 10 minutes.

62. (withdrawn) A process according to Claim 60, further comprising rinsing said hair after said a sufficient period of time to reform at least one disulphide bond of the keratin of said hair.

63. (withdrawn) A process according to Claim 57, wherein said at least one oxidizing composition comprises at least one oxidizing agent.

64. (withdrawn) A process according to Claim 63, wherein said at least one oxidizing agent is chosen from hydrogen peroxide; alkaline bromates; persalts; and polythionates.

65. (withdrawn) A process according to Claim 57, wherein said at least one oxidizing composition has a pH ranging from 2 to 10.

66. (withdrawn) A process according to Claim 45, wherein said R1, R2, and R3, which are identical or different, are each chosen from hydrogen; linear C_1 to C_6 alkyl groups optionally substituted by at least one group chosen from hydroxyl groups, carboxyl groups, amino groups, sulphonyl groups, and phosphonyl groups; branched C_1 to C_6 alkyl groups optionally substituted by at least one group chosen from hydroxyl groups, carboxyl groups, amino groups, sulphonyl groups, and phosphonyl groups; phenyl groups optionally substituted by at least one group chosen from halogens, C_1 to C_4 alkyl groups, C_1 to C_4 alkoxy groups, and hydroxyl groups; heterocycles; and guanidino groups.

67. (withdrawn) A process according to Claim 66, wherein said heterocycles are chosen from pyridine groups, dihydropyridine groups, tetrahydropyridine groups, and quinoline groups.

68. (withdrawn) A process according to Claim 45, wherein said at least one reducing agent is chosen from:

- imino(methylamino)methanesulphinic acid;
- imino(propylamino)methanesulphinic acid;
- (dimethylamino)iminomethanesulphinic acid;
- (diethylamino)iminomethanesulphinic acid;

- (ethylamino)(ethylimino)methanesulphinic acid;

- (methylamino)(methylimino)methanesulphinic acid;

- (ethylamino)(ethylimino)methanesulphinic acid;

- (butylamino)(butylimino)methanesulphinic acid;

- (phenylamino)(phenylimino)methanesulphinic acid;

- (phenylmethylamino)(phenylmethylimino) methanesulphinic acid;

- (carboxymethylamino)iminomethanesulphinic acid;

- (2-carboxyethylamino)iminomethane sulphinic acid;

- (3-carboxypropylamino)iminomethane sulphinic acid;

- (5-carboxypentylamino)iminomethane sulphinic acid;

- (hydroxymethylamino)iminomethanesulphinic acid;

- (2-aminoethylamino)iminomethanesulphinic acid;

- imino(sulphonylmethylamino)methanesulphinic acid;

- imino(2-sulphonylpropylamino)methane sulphinic acid;

- imino(2-phosphonylmethylamino)methane sulphinic acid;

- imino(phenylamino)methanesulphinic acid;

- imino(4-methylphenylamino)methanesulphinic acid;

- imino(4-hydroxyphenylamino)methanesulphinic acid;

- imino(4-methoxyphenylamino)methanesulphinic acid;

- imino(2-chlorophenylamino)methanesulphinic acid;

- imino(4-methyl-2-pyridylamino)methane sulphinic acid;

- imino(6-methyl-2-pyridylamino)methane sulphinic acid;

- imino(5-methyl-2-pyridylamino)methane sulphinic acid;

- imino(2-quinolylamino)methanesulphinic acid;

- imino(3-quinolylamino)methanesulphinic acid;

- (methylimino)-2-pyridylaminomethane sulphinic acid;

- (methylimino)[(3,4,5,6-tetrahydro-2-pyridyl)amino]methanesulphinic acid; and

- [(aminoiminomethyl)amino]iminomethane sulphinic acid.

69. (withdrawn) A process according to Claim 45, wherein said at least one reducing agent is chosen from:

- (carboxymethylamino)iminomethanesulphinic acid; and

- imino(phenylamino)methanesulphinic acid.

70. (withdrawn) A process according to Claim 45, wherein said at least one reducing agent is present in said at least one reducing composition in an amount ranging from 0.05% to 20% by weight with respect to the total weight of said composition.

71. (withdrawn) A process according to Claim 45, wherein said at least one reducing agent is present in said at least one reducing composition in an amount ranging from 0.1% to 8% by weight with respect to the total weight of said composition.

72. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition has a pH ranging from 2 to 11.

73. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition has a pH ranging from 7 to 10.

74. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition further comprises at least one additive chosen from reducing agents other than said at least one reducing agent; surface-active agents chosen from nonionic surface-active agents, anionic surface-active agents, cationic surface-active agents, and amphoteric surface-active agents; treating agents chosen from cationic treating agents, anionic treating agents, nonionic treating agents, and amphoteric treating agents; fatty alcohols; lanolin derivatives; active ingredients; agents for combating hair loss; antidandruff agents; thickeners; suspending agents; sequestering agents; opacifying agents; colorants; sunscreen agents; fragrances; and preservatives.

75. (withdrawn) A process according to Claim 74, wherein said reducing agents other than said at least one reducing agent are chosen from thioglycolic acid; glyceryl monothioglycolate; glycol monothioglycolate; cysteamine; C_1 to C_4 acylated derivatives of cysteamine; cysteine; N-acetylcysteine; N-mercaptoalkylamides of sugars; β-mercaptopropionic acid; derivatives of β-mercaptopropionic acid; thiolactic acid; thioloactic esters; thiomalic acid; pantheteine; thioglycerol; sulphites of at least one alkali metal; sulphites of at least one alkaline earth metal; bisulphites of at least one alkali metal; bisulphites of at least one alkaline earth metal; N-(mercaptoalkyl)-o-

hydroxyalkylamides; N-monoalkylmercapto-4-butyramides; N,N-dialkylmercapto-4-butyramides; aminomercaptoalkylamides; and alkylaminomercaptoalkylamides.

76. (withdrawn) A process according to Claim 74, wherein said derivatives of cysteamine are chosen from N-acetylcysteamine and N-propionylcysteamine.

77. (withdrawn) A process according to Claim 74, wherein said N-mercaptoalkylamides of sugars are chosen from N-(2-mercaptoethyl)-gluconamide.

78. (withdrawn) A process according to Claim 75, wherein said thioloactic esters are chosen from glyceryl monothiolactate.

79. (withdrawn) A process according to Claim 74, wherein said surface-active agents are chosen from alkyl sulphates; alkylbenzenesulphates; alkyl ether sulphates; alkylsulphonates; quaternary ammonium salts; alkyl betaines; oxyethylenated alkylphenols; fatty acid alkanolamides; oxyethylenated fatty acid esters; and nonionic surfactants comprising at least one hydroxypropyl ether group.

80. (withdrawn) A process according to Claim 74, wherein said treating agents are chosen from volatile linear silicones; volatile cyclic silicones; nonvolatile linear silicones; nonvolatile cyclic silicones; polydimethylsiloxanes; quaternized polyorganosiloxanes; polyorganosiloxanes with at least one aminoalkyl group modified by at least one alkoxy-carbonylalkyl group; polyorganosiloxanes; polydimethylsiloxanes

with stearoxy end groups (stearoxy dimethicone); polydimethylsiloxane-dialkylammonium acetate copolymers; polydimethylsiloxane-poly(alkyl betaine) copolymers; polysiloxanes organomodified by at least one group chosen from mercapto groups and mercaptoalkyl groups; silanes; cationic polymers; basic amino acids; acidic amino acids; peptides; derivatives of peptides; protein hydrolysates; waxes; swelling agents; penetrating agents; agents which make it possible to reinforce the effectiveness of said at least one reducing agent; dimethylisosorbitol; urea; derivatives of urea; pyrrolidone; N-alkylpyrrolidones; thiamorpholinone; alkyl ethers of alkylene glycol; alkyl ethers of dialkylene glycol; C_3 to C_6 alkanediols; and 2-imidazolidinone.

81. (withdrawn) A process according to Claim 80, wherein said polyorganosiloxanes are chosen from polydimethylsiloxane-polyoxyalkyl copolymers.

82. (withdrawn) A process according to Claim 80, wherein said silanes are chosen from stearoxytrimethylsilane.

83. (withdrawn) A process according to Claim 80, wherein said cationic polymers are chosen from cationic polymers derived from ionene.

84. (withdrawn) A process according to Claim 80, wherein said basic amino acids are chosen from lysine and arginine.

85. (withdrawn) A process according to Claim 80, wherein said acidic amino acids are chosen from glutamic acid and aspartic acid.

86. (withdrawn) A process according to Claim 80, wherein said agents which make it possible to reinforce the effectiveness of said at least one reducing agent are chose from SiO_2/polydimethylsiloxane mixtures.

87. (withdrawn) A process according to Claim 80, wherein said alkyl ethers of alkylene glycol are chosen from propylene glycol monomethyl ether, and ethylene glycol monoethyl ether.

88. (withdrawn) A process according to Claim 80, wherein said alkyl ethers of dialkylene glycol are chosen from dipropylene glycol monomethyl ether and diethylene glycol monoethyl ether.

89. (withdrawn) A process according to Claim 80, wherein said C_3 to C_6 alkanediols are chosen from 1,2-propanediol and 1,2-butanediol.

90. (withdrawn) A process according to Claim 74, wherein said active ingredients are chosen from panthothenic acid.

91. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition is a lotion, optionally thickened, a cream, or a gel.

92. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition is an exothermic composition.

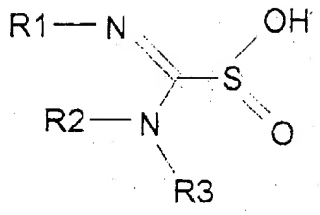
93. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition further comprises water.

94. (withdrawn) A process according to Claim 45, wherein said at least one reducing composition comprises at least one solvent.

95. (withdrawn) A process according to Claim 94, wherein said at least one solvent is chosen from ethanol, propanol, butanol, isopropanol, and glycerol.

96. (withdrawn) A process according to Claim 94, wherein said at least one solvent is present in an amount ranging up to 20% by weight with respect to the total weight of said composition.

97. (withdrawn) A process for permanent deformation of hair comprising applying at least one reducing composition comprising at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I), the inorganic salts thereof, and the organic salts thereof:



(I)

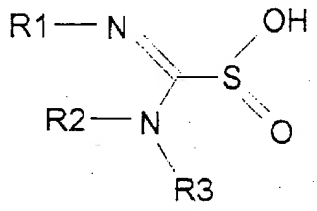
wherein:

R1, R2 and R3, which are identical or different, are each chosen from hydrogen; amino groups; C_1 to C_8 aminoiminoalkyl groups; imino groups; C_1 to C_8 aminoalkyl groups; guanidino groups; C_1 to C_8 linear alkyl groups; C_1 to C_8 branched alkyl groups; C_2 to C_8 linear alkenyl groups; C_2 to C_8 branched alkenyl groups; C_7 to C_{20} aralkyl groups; and C_3 to C_{20} rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur;

wherein R1, R2 and R3 are each optionally substituted with at least one substituent chosen from hydroxyl groups; carboxyl groups; amino groups; amido groups; halogens; C_1 to C_8 linear alkyl groups; C_1 to C_8 branched alkyl groups; C_1 to C_8 linear alkoxy groups; C_1 to C_8 branched alkoxy groups; sulphonyl groups; sulphonate groups; phosphonyl groups; phosphate groups; C_1 to C_8 linear alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1 to C_8 alkoxy groups; C_1 to C_8 branched alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1 to C_8 alkoxy groups; C_2 to C_8 linear alkenyl groups substituted with at least one

group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1 to C_8 alkoxy groups; C_2 to C_8 branched alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1 to C_8 alkoxy groups; and C_7 to C_{20} aralkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1 to C_8 alkoxy groups.

98. (withdrawn) A kit comprising, in a first compartment, an oxidizing composition, and, in a second compartment, a reducing composition comprising at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I), the inorganic salts thereof, and the organic salts thereof:



(I)

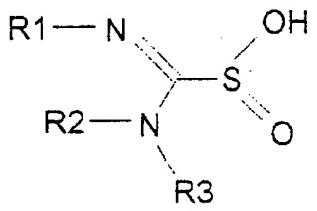
wherein:

R1, R2, and R3, which are identical or different, are each chosen from hydrogen; amino groups; C_1 to C_8 aminoiminoalkyl groups; imino groups; C_1 to C_8 aminoalkyl groups; guanidino groups; C_1 to C_8 linear alkyl groups; C_1 to C_8 branched alkyl groups; C_2 to C_8 linear alkenyl groups; C_2 to C_8 branched alkenyl groups; C_7 to C_{20} aralkyl

groups; and C_3 to C_{20} rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur; and

wherein said R1, R2, and R3 are optionally substituted.

99. (withdrawn) A kit comprising, in a first compartment, an oxidizing composition, and, in a second compartment, a reducing composition comprising at least one reducing agent chosen from N-substituted formamidinesulphinic acid derivatives of formula (I), the inorganic salts thereof, and the organic salts thereof:



(I)

wherein:

R1, R2 and R3, which may be identical or different, are each chosen from hydrogen; amino groups; C_1 to C_8 aminoiminoalkyl groups; imino groups; C_1 to C_8 aminoalkyl groups; guanidino groups; C_1 to C_8 linear alkyl groups; C_1 to C_8 branched alkyl groups; C_2 to C_8 linear alkenyl groups; C_2 to C_8 branched alkenyl groups; C_7 to C_{20} aralkyl groups; and C_3 to C_{20} rings, optionally chosen from aromatic rings, and optionally comprising at least one heteroatom chosen from halogens, nitrogen, oxygen, and sulphur;

wherein R1, R2 and R3 are each optionally substituted with at least one substituent chosen from hydroxyl groups; carboxyl groups; amino groups; amido groups; halogens; C_1 to C_8 linear alkyl groups; C_1 to C_8 branched alkyl groups; C_1 to C_8 linear alkoxy groups; C_1 to C_8 branched alkoxy groups; sulphonyl groups; sulphonate groups; phosphonyl groups; phosphate groups; C_1 to C_8 linear alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1 to C_8 alkoxy groups; C_1 to C_8 branched alkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1 to C_8 alkoxy groups; C_2 to C_8 linear alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1 to C_8 alkoxy groups; C_2 to C_8 branched alkenyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1 to C_8 alkoxy groups; and C_7 to C_{20} aralkyl groups substituted with at least one group chosen from sulphonic acid groups, sulphonate groups, phosphoric acid groups, phosphate groups, amino groups, and C_1 to C_8 alkoxy groups.

100. (withdrawn) A compound (carboxymethylamino)iminomethanesulphinic acid.

B. Evidence Appendix to Appeal Brief Under Rule 41.37(c)(1)(ix)

No evidence submitted pursuant to §§ 1.130-1.132 or any other evidence entered by the Office is relied upon by Appellants in this appeal.

C. Related Proceedings Appendix to Appeal Brief Under Rule 41.37(c)(1)(x)

No decisions in related proceedings were identified in this Appeal Brief.